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(12) PATENT ABSTRACT

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(54) AN AIR CONDITIONING INDUCTION UNIT
(71) ENVIRON MECHANICAL SERVICES PTY. LTD.
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(74) SF
(57) Claim

1. An induction unit for a ducted air conditioning system, said unit comprising a housing, wall means internally dividing said housing into two chambers, a first opening in said housing to receive conditioned air from a duct and allowing the conditioned air to enter a first one of said chambers, a second opening in said housing allowing conditioned air within the first chamber to enter the room within which the unit is located, a third opening in said housing allowing room air to enter the other chamber, passage means extending through said wall means and joining the two chambers to allow air to pass from said other chamber to said first chamber, and means in said passage to selectively cool or heat air passing therethrough.

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COMPLETE SPECIFICATION

(ORIGINAL)

FOR OFFICE USE

Class

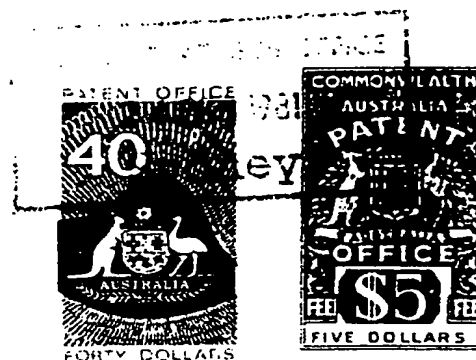
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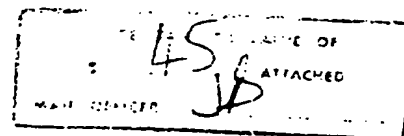
Complete Specification Lodged
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Priority

Related Art



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Complete Specification for the invention entitled:

"AN AIR CONDITIONING INJECTION UNIT"

The following statement is a full description of this invention, including the best method of performing it known to the inventor.

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The present invention relates to ducted air conditioning systems and more particularly but not exclusively to room induction units to deliver conditioned air to individual rooms.

It is desirable for example, in hotels and hospitals to control humidity temperature and flow of air in the room substantially independent of other rooms. Known ducted induction unit air conditioning systems have not effectively provided an economical solution enabling the independent controlling of the quantity of conditioned air delivered to separate rooms.

10 It is an object of the present invention to overcome or substantially ameliorate the above disadvantages.

In broad form the present invention is an induction unit for a ducted air conditioning system, said unit comprising a housing, wall means internally dividing said housing into two chambers, a first opening in said housing to receive conditioned air from a duct and allowing the conditioned air to enter a first one of said chambers, a second opening in said housing allowing conditioned air within the first chamber to enter the room within which the unit is located, a third opening in said housing allowing room air to enter the other
20 chamber, passage means extending through said wall means and joining the two chambers to allow air to pass from said other chamber to said first chamber, and means in said passage to selectively cool or heat air passing therethrough.

A preferred form of the present invention will now be described by way of example with reference to the accompanying drawings, wherein:

Figure 1 is a sectioned schematic side elevation of an induction unit for a ducted air conditioning system; and

Figure 2 is a front schematic elevation of the unit

of Figure 1.

In Figure 1 there is depicted an induction unit 10 to be located within the room of a hotel, hospital or any other building having a ducted air conditioning system. The unit 10 is adapted to be controlled so that the temperature of the air delivered to the room can be varied according to individual needs. The unit 10 includes a housing 11 which is divided into an upper chamber 12 and lower chamber 13 by means of a wall 14. The housing 11 has a first opening 16 which receives conditioned air from the main duct 15 through which conditioned air may be delivered to the induction units in other rooms. Located on the front of the induction unit 10 is a grille 17 which defines a second opening 17A to allow air to leave the chamber 12 to enter the room. The grille 17 also defines a third opening 23 in the housing 11 to allow air to pass from the room into the chamber 13. The passage 18 provides for communication between the two chambers 12 and 13.

Located within the passage 18 are cooling or heating coils 19 to selectively heat or cool air passing through the passage 18. Located within the chamber 13 is an optional heating element 24 which may be selectively operated to heat the air in chamber 13.

Air enters the chamber 12 by means of a series of equally spaced nozzles 20. Located behind the nozzles 20 is an optional air control strip 21 within which is formed a set of equally spaced triangular shaped apertures 22 which are selectively alignable with the nozzles 20. However, the strip 21 may be so moved that a degree of alignment may be varied to thereby govern the amount of air passing through the nozzles 20, or close the air off completely.

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In operation, air entering nozzles 20 induces a flow of air through the passage 18 thus causing air in the room to be circulated through the unit 10.

The claims defining the invention are as follows:

1. An induction unit for a ducted air conditioning system, said unit comprising a housing, wall means internally dividing said housing into two chambers, a first opening in said housing to receive conditioned air from a duct and allowing the conditioned air to enter a first one of said chambers, a second opening in said housing allowing conditioned air within the first chamber to enter the room within which the unit is located, a third opening in said housing allowing room air to enter the other chamber, passage means extending through said wall means and joining the two chambers to allow air to pass from said other chamber to said first chamber, and means in said passage to selectively cool or heat air passing therethrough.

2. The induction unit of claim 1 further including nozzle means in said first opening, said nozzle means having a nozzle passage which converges in the direction of air flow from said duct to the first chamber.

3. The induction unit of claim 1, wherein said nozzle passage is adjustable so that the transverse cross-sectional area can be changed so as to adjust the flow rate of the air passing therethrough.

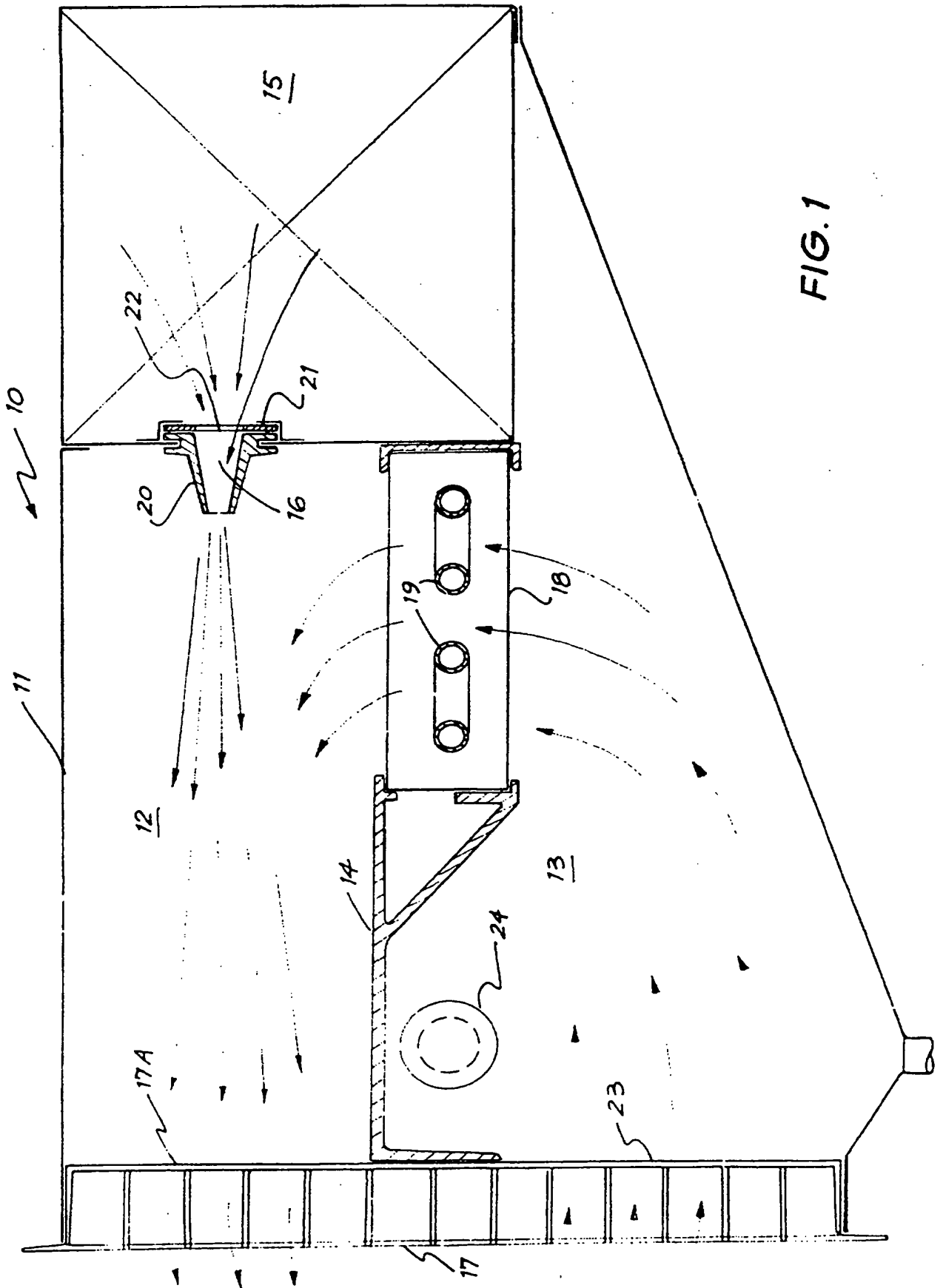
4. An induction unit for a ducted air conditioning system, substantially as hereinbefore described with reference to the accompanying drawings.

DATED this TWENTY-FOURTH day of FEBRUARY, 1961

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